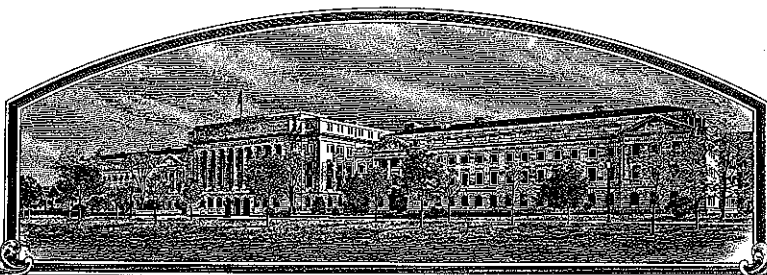


No.

200000080



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Monsanto Technology LLC

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE ABOVE PURPOSE, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

SOYBEAN

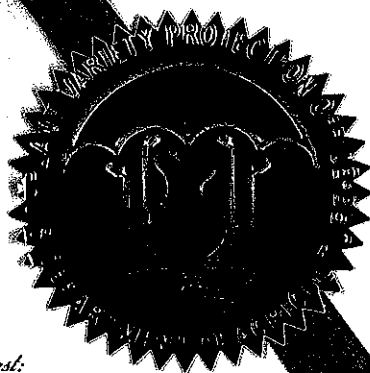
'AG5001'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this seventeenth day of April, in the year two thousand and six.

Attest:

  
Commissioner  
Plant Variety Protection Office  
Agricultural Marketing Service

  
Secretary of Agriculture

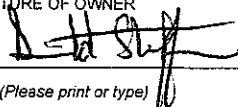


U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE  
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER <b>Monsanto Technology LLC</b>		2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME <b>AGM52802</b>		3. VARIETY NAME <b>AG5001</b>	
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP Code, and Country) <b>3302 S.E. Convenience Blvd. P.O. Box 3010 Ankeny, IA 50021</b>		5. TELEPHONE (include area code) <b>(515) 963-4200</b>		FOR OFFICIAL USE ONLY	
				PVPO NUMBER <b>200000080</b>	
7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION (corporation, partnership, association, etc.) <b>Limited Liability Company</b>		8. IF INCORPORATED, GIVE STATE OF INCORPORATION		9. DATE OF INCORPORATION	
				FILING DATE <b>12/9/1999</b>	
10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. (First person listed will receive all papers) <b>Donald Steffen 3302 S.E. Convenience Blvd. P.O. Box 3010 Ankeny, IA 50021</b>				FILING AND EXAMINATION FEES: <b>\$ 2,450.00</b>	
				DATE <b>12/9/1999</b>	
11. TELEPHONE (include area code) <b>(515) 965-3022</b>		12. FAX (include area code) <b>(515) 965-3001</b>		13. E-MAIL <b>destef@monsanto.com</b>	
14. CROP KIND (Common Name) <b>Soybean</b>		15. GENUS AND SPECIES NAME OF CROP <b>Glycine max (L.) Merr.</b>		16. FAMILY NAME (Botanical) <b>Fabaceae (Leguminosae)</b>	
17. IS THE VARIETY A FIRST GENERATION HYBRID? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		18. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED (Follow instructions on reverse)		19. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? See Section 83(a) of the Plant Variety Protection Act <input type="checkbox"/> YES (If "yes", answer items 20 and 21 below) <input checked="" type="checkbox"/> NO (If "no," go to item 22)	
a. <input checked="" type="checkbox"/> Exhibit A. Origin and Breeding History of the Variety		b. <input checked="" type="checkbox"/> Exhibit B. Statement of Distinctness		c. <input checked="" type="checkbox"/> Exhibit C. Objective Description of Variety	
d. <input checked="" type="checkbox"/> Exhibit D. Additional Description of the Variety (Optional)		e. <input checked="" type="checkbox"/> Exhibit E. Statement of the Basis of the Owner's Ownership		f. <input checked="" type="checkbox"/> Voucher Sample (2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)	
g. <input checked="" type="checkbox"/> Filing and Examination Fee (\$3,652), made payable to "Treasurer of the United States" (Mail to the Plant Variety Protection Office)		20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES? IF YES, WHICH CLASSES? <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED		21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS? IF YES, SPECIFY THE NUMBER 1, 2, 3, etc. FOR EACH CLASS. <input type="checkbox"/> FOUNDATION <input type="checkbox"/> REGISTERED <input type="checkbox"/> CERTIFIED (If additional explanation is necessary, please use the space indicated on the reverse.)	
22. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. (Please use space indicated on reverse.)		23. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT (PLANT BREEDER'S RIGHT OR PATENT)? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. (Please use space indicated on reverse.)		24. The owners declare that a viable sample of basic seed of the variety will be furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.  The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.  Owner(s) is(are) informed that false representation herein can jeopardize protection and result in penalties.	
SIGNATURE OF OWNER 		SIGNATURE OF OWNER		NAME (Please print or type) <b>Donald Steffen</b>	
CAPACITY OR TITLE <b>Oilseeds IP/Reg. Affairs Manager</b>		DATE <b>12/15/1999</b>		CAPACITY OR TITLE  DATE	

**GENERAL:** To be effectively filed with the Plant Variety Protection Office (PVPO) ALL of the following items must be received in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed-produced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to reproduce the variety, or for tuber reproduced varieties verification that a viable (in the sense that will reproduce an entire plant) tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for \$652 (\$43 filing fee and \$3,220 examination fee), payable to "Treasurer of the United States" (See Section 97.6 of the Regulations and Rules of Practice.) Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfilled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 500, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated **DO NOT** use masking material to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of \$2 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

**Plant Variety Protection Office**

Telephone: (301) 504-5518

FAX: (301) 504-5291

Homepage: <http://www.ams.usda.gov/science/pvpo/pvp.htm>

**ITEM**

- 18a. Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) evidence of uniformity and stability; and (4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified
- 18b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If a new variety is most similar to one variety or a group of related varieties:
- (1) identify these varieties and state all differences objectively;
- (2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
- (3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.
- 18c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.
- 18d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, etc.
- 18e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.
19. If "Yes" is specified (seed of this variety be sold by variety name only, as a class of certified seed) the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. (See Regulations and Rules of Practice, Section 97.103).
21. See Section 83 of the Act for the Contents and Term of Plant Variety Protection.
22. See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.
23. See Section 5.5 of the Act for instructions on claiming the benefit of an earlier filing date.
- 
21. CONTINUED FROM FRONT (Please provide a statement as to the limitation and sequence of generations that may be certified.)

---

22. CONTINUED FROM FRONT (Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)

---

23. CONTINUED FROM FRONT (Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)

**U.S. Patent No. 5,776,760. Issue Date: July 7, 1998. Assignee: Monsanto Company. Patent Application No. 484,274.**

**NOTES:** It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. There is no charge for filing a change of address. The fee for filing a change of ownership or assignment or any modification of owner's name is specified in Section 97.175 of the regulations. (See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)

To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, Room 213, Building 306, Beltsville Agricultural Research Center-East, Beltsville, MD 20705. Telephone: (301) 504-8089. <http://www.ams.usda.gov/lsg/seed.htm>

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 3.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability sexual orientation, marital or family status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotope, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

SI-470 (02-10-03) designed by the Plant Variety Protection Office with Word 2000. Replaces former versions of SI470, which are obsolete.

MONSANTO TECHNOLOGY LLC  
PVP APPLICATION – AG5001

**EXHIBIT A**

***ORIGIN AND BREEDING HISTORY***

1994 - Final cross was made in 1994 at Galena, Maryland.

Parentage: CM428//A4922/AG4701

Source of glyphosate tolerance is 40-3-2.

1994 - F1 generation was grown at Isabela, Puerto Rico and advanced using modified pedigree selection.

1995 - F2 generation was grown at Isabela, Puerto Rico and advanced using modified pedigree selection.

1995 - F3 bulk populations were grown at Galena, Maryland and single plants pulled.

1996 - F3 derived F4 plants were grown at Santa Fe, Argentina in progeny rows and variety AG5001 was selected based on agronomic characteristics, including, but not limited to, general plant health, lodging, early emergence, and general disease resistance, including resistance to PRR, SCN, BSR, SDS, stem canker, etc.

1996 - F3:5 breeder seed was grown at Redwood Falls, Minnesota for progeny row increase and in yield tests at 3 locations in the Maryland.

Variety AG5001 was observed to be uniform and stable for the characteristics described within this application based on our observations since 1996 and, henceforth, to present. No variants were observed during this time.

Variety AG5001 has continued to be grown in yield tests at 9 locations in 1997 and 25 locations in 1998 for comparison against other varieties to determine how it would be used in our marketing program.

*Monsanto Technology*  
~~ASGROW SEED COMPANY~~ LLC (BT: 9/21/2004)  
 PVP APPLICATION - AG5001  
 October 1999

## EXHIBIT B

Novelty Statement Concerning AG5001 Soybean

To our knowledge, the soybean varieties that closely resemble AG5001 are A4922, AG4702, and AG5401:

1. Flower color	AG5001	- Purple
	A4922	- White
	AG4702	- White
	AG5401	- White
2. RR <sup>TM</sup> gene	AG5001	- Present
(Tolerance to glyphosate herbicide)	A4922	- Absent
<i>&lt;40-3-2&gt; (BT: 3/17/2005 per applicant's authorization)</i>	AG4702	- Present
	AG5401	- Present
3. Pubescence color	AG5001	- Light Tawny (td gene)
	A4922	- Tawny
	AG4702	- Tawny
	AG5401	- Gray
4. PRR resistance	AG5001	- Rps1a
(Tolerance to Phytophthora Root Rot)	A4922	- rps
<i>Resistant</i>	AG4702	- rps
<i>JLS, April 22, 2005</i>	AG5401	- rps
<i>By permission of the Applicant.</i>		

REPRODUCE LOCALLY. Include form number and date on all reproductions

Form Approved: OMB NO. 0581-0055

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this collection of information is (0581-0055). The time required to complete this information collection is estimated to average 30 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact the USDA's TARGET Venter at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE  
SCIENCE AND TECHNOLOGY  
PLANT VARIETY PROTECTION OFFICE  
BELTSVILLE, MD 20705

EXHIBIT C  
(Soybean)

**OBJECTIVE DESCRIPTION OF VARIETY**  
**SOYBEAN (*Glycine max* (L.) Merr.)**

NAME OF APPLICANT(S) <i>Monsanto Technology</i> <del>Angeow Seed Company</del> LLC (BT: 9/21/2004)	FOR OFFICIAL USE ONLY
ADDRESS (Street and No., or R.F.D. No., City, State, and Zip Code) <i>3302 S.E. Convenience Blvd.</i> <del>634 East Lincoln Way</del> P.O. Box 3010 <del>Ames IA 50010</del> Ankeny, IA 50021 (BT: 9/21/2004)	PVPO NUMBER <b>200000080</b>  VARIETY NAME <b>AG5001</b>  TEMPORARY DESIGNATION <b>AGM52802</b>

PLEASE READ ALL INSTRUCTIONS CAREFULLY: Place the appropriate number that describes the varietal character of this variety in the boxes below. Place a zero in the first box (e.g. ☐☐☐ or ☐☐) when number is either 99 or less 9 or less respectively. Data for quantitative plant characters should be based on a minimum of 100 plants. Comparative data should be determined from varieties entered in the same trial. Royal Horticultural Society or any recognized color standard may be used to determine plant colors; designate system used:

Please answer all questions for your variety; lack of response may delay progress of your application.

**A. MORPHOLOGY**

**Seed Shape:**

<input type="checkbox"/> 2	1 = Spherical (L/W, L/T, and T/W ratios - <1.2) 3 = Elongate (L/T ratio > 1.2; T/W = <1.2)	2 = Spherical Flattened (L/W ratio >1.2; L/T ratio = <1.2) 4 = Elongate-Flattened (L/T ratio >1.2; T/W >1.2)
----------------------------	---	---

**Seed Coat Color:**

<input type="checkbox"/> 1	1= Yellow	2= Green	3= Brown	4= Black	5= Other
	(Please Specify) _____				

**Seed Coat Luster:**

<input type="checkbox"/> 1	1= Dull	2= Shiny
----------------------------	---------	----------

**Seed Size:**

<input type="checkbox"/> 1	<input type="checkbox"/> 7	grams/100 seeds
----------------------------	----------------------------	-----------------

**Hilum Color:**

<input type="checkbox"/> 6	1= Buff	2= Yellow	3= Brown	4= Gray	5= Imperfect Black
	6= Black	7= Other (Please Specify) _____			

**Cotyledon Color:**

<input type="checkbox"/> 1	1 = Yellow	2 = Green
----------------------------	------------	-----------

**A. MORPHOLOGY** *Continued***Seed Protein Peroxidase Activity:**

☐ 1 = Low      2 = High

**Hypocotyl Color:**

☐ 3      1 = Green      2 = Green with Bronze      3 = Light Purple      4 = Dark Purple extending to  
                  'Evans' or 'Davis'      Bands below Cotyledon      below Cotyledons      unifoliate leaves ('Hodgson',  
                  'Woodworth' or 'Tracy'      'Beeson' or 'Pickett 71'      'Coker', or 'Hampton 266A')

**Leaf Shape:**

☐ 3      1 = Lanceolate      2 = Oval      3 = Ovate      4 = Other (Please Specify) \_\_\_\_\_

**Flower Color:**

☐ 2      1 = White      2 = Purple      3 = White with a Purple Throat

**Pod Color:**

☐ 1      1 = Tan      2 = Brown      3 = Black

**Pubescence Color:**

☐ 3      1 = Gray      2 = Brown (Tawny)      3 = Light Tawny

EST: 10/13/2004 per applicant's authorization)

**Plant Habit:**

☐ 3      1 = Determinate      2 = Semi-Determinate      3 = Indeterminate      4 = Intermediate

**B. DISEASE REACTIONS**

0 = Not Tested      1 = Susceptible      2 = Resistant      3 = Tolerant

**Bacterial**

☐ 0      Bacterial Pustule (*Xanthomonas campestris* pv. *glycines* (Nakano) Dye)

☐ 0      Bacterial Blight (*Pseudomonas syringae* pv. *glycinea* (Coerper) Young, Dye & Wilkie)

☐ 0      Wildfire Blight (*Pseudomonas syringae* pv. *tabaci* (Wolf & Foster) Young, Dye & Wilkie)

**Fungal**

☐ 0      Brown Spot (*Septoria glycines* Hemmi)

Frogeye Leafspot (*Cercospora soja*)

☐ 0      race 1      ☐ 0      race 2      ☐ 0      race 3      ☐ 0      race 4

☐ 0      race 5      ☐ 0      race 6      ☐ 0      Other (Please Specify) \_\_\_\_\_

☐ 0      Target Spot (*Corynespora cassicola* (Berk. & Curt.) Wei)

☐ 0      Downy Mildew (*Peronospora trifoliorum* var. *manshurica* (Naum.) Syd. Ex Gaum)

**B. DISEASE REACTIONS** *(Continued)*      0 = Not Tested   1 = Susceptible   2 = Resistant   3 = Tolerant

- Powdery Mildew (*Microsphaera diffusa* Cke. & Pk.)
- Brown Stem Rot (*Phialophora gregata* (Allington & Chamberlain) W. Gams.)
- Stem Canker (*Diaporthe phaseolorum* (Cke. & Ell.)Sacc. var. *caulivora* Athow & Caldwell)
- Pod and Stem Blight (*Diaporthe phaseolorum* (Cke. & Ell.)Sacc. var. *sojae* (Lehman) Wehm.)
- Purple Seed Stain (*Cercospora kikuchii* (T. Matsu. & Tomoyasu) Gardener)
- Rhizoctonia Root rot (*Rhizoctonia solani* Kuhn)

**Phytophthora Rot** (*Phytophthora megasperma* Drechs. f. *sp.glycinea* (Kuan & Erwin))

<input type="text" value="2"/>	race 1	<input type="text" value="1"/>	race 8	<input type="text" value="2"/>	race 15	<input type="text" value="1"/>	race 22
<input type="text" value="2"/>	race 2	<input type="text" value="1"/>	race 9	<input type="text" value="2"/>	race 16	<input type="text" value="1"/>	race 23
<input type="text" value="1"/>	race 3	<input type="text" value="2"/>	race 10	<input type="text" value="2"/>	race 17	<input type="text" value="2"/>	race 24
<input type="text" value="1"/>	race 4	<input type="text" value="2"/>	race 11	<input type="text" value="2"/>	race 18	<input type="text" value="1"/>	race 25
<input type="text" value="1"/>	race 5	<input type="text" value="1"/>	race 12	<input type="text" value="1"/>	race 19	<input type="text" value="0"/>	race 26
<input type="text" value="1"/>	race 6	<input type="text" value="2"/>	race 13	<input type="text" value="1"/>	race 20	<input type="text" value="0"/>	race 27
<input type="text" value="1"/>	race 7	<input type="text" value="2"/>	race 14	<input type="text" value="1"/>	race 21	<input type="text"/>	Other ( <i>Please Specify</i> ) _____

- Bud Blight ( Tobacco Ringspot Virus)
- Yellow Mosaic ( Bean Yellow Mosaic Virus)
- Cowpea Mosaic (Cowpea Chlorotic Virus)
- Pod Mottle ( Bean Pod Mottle Virus)
- Seed Mottle ( Soybean Mosaic Virus)

**Nematode**

**Soybean Cyst Nematode** (*Heterodera glycines* Ichinohe)

<input type="text" value="0"/>	race 1	<input type="text" value="1"/>	race 3	<input type="text" value="0"/>	race 6	<input type="text" value="1"/>	race 14 (former r. 4)
<input type="text" value="0"/>	race 2	<input type="text" value="0"/>	race 5	<input type="text" value="0"/>	race 9	<input type="text"/>	Other ( <i>Please Specify</i> ) _____

- Lance Nematode (*Hoplolaimus colombus* Sher)
- Southern Root Knot Nematode (*Meloidogyne incognita* (Kofoid & White)Chitwood)
- Northern Root Knot Nematode (*Meloidogyne hapla* Chitwood)



**B. DISEASE REACTIONS** *(Continued)*      0 = Not Tested    1 = Susceptible    2 = Resistant200000080  
3 = Tolerant

- Peanut Root Knot Nematode (*Meloidogyne arenaria* (Neal) Chitwood)
- Reniform Nematode (*Rotylenchulus reniformis* Linwood & Olivera)
- Javanese Nematode (*Meloidogyne javanica* (Treud) Chitwood)
- Other Nematode (*Please Specify*) \_\_\_\_\_

**C. PHYSIOLOGICAL RESPONSES**

0 = Not Tested    1 = Susceptible    2 = Resistant    3 = Tolerant

- Iron Chlorosis on Calcareous Soil
- Phosphorus
- Boron
- Aluminum
- Salt
- Drought
- Other (*Please Specify*) \_\_\_\_\_

**D. INSECT REACTIONS**

0 = Not Tested    1 = Susceptible    2 = Resistant    3 = Tolerant

- Mexican Bean Beetle (*Epilachna varivestis* Mulsant)
- Potato Leaf Hopper (*Empoasca fabae* (Harris))
- Other (*Please Specify*) \_\_\_\_\_

**E. HERBICIDE REACTIONS**

0 = Not Tested    1 = Susceptible    2 = Resistant

- Metribuzin
- Bentazone
- Sulfonylurea
- Glyphosate
- Glufosinate
- Pendimethalin
- Other (*Please Specify*) \_\_\_\_\_

**F. TRANSGENIC COMPOSITION**

Has the development of the Subject Variety included the insertion or removal of genetic material?

☐

Yes

☒

No

If yes, please complete the following information requests\*. Use additional pages if necessary.

## F. TRANSGENIC COMPOSITION(Continued)

1. Please state the vector's name:
  2. Please state the vector components:
  3. Please describe the genetic material successfully transferred into the Subject Variety:
  4. Please describe the insertion protocol:
- \* A literature citation(s) explaining the four information requests above may be an acceptable alternative to completion of the "Transgenic Composition" portion of this form.

---

## G. BIOCHEMICAL MARKERS

Please describe any biochemical information here which you believe will be helpful in further describing the Subject Variety (e.g. Sim Sequence Repeats, Random Fragment Length Polymorphisms, Isozymic Characterization). Use additional pages if necessary.

---

## H. COMMENTS

200000080  
(8/9/2/2004) Monsanto Technology  
AS GROW SEED COMPANY LLC  
PVP APPLICATION - AG5001  
October 1999

EXHIBIT D

Additional Description of AG5001 Soybean

AG5001 is a early maturity group V variety with resistance to Roundup<sup>™</sup> herbicide. It has superior yields to lines of similar maturity and has excellent agronomic characteristics. In tests, it has beaten ~~AG4702~~ <sup>Monsanto</sup> AG4702 by 113 % overall, winning at 8 of 9 locations. AG5001 would be grown in the early Group V growing areas of the southern corn belt, including Illinois, Missouri, Mississippi, Arkansas, Tennessee, Maryland, and North Carolina. It has only average appearance.

U.S. DEPARTMENT OF AGRICULTURE  
AGRICULTURAL MARKETING SERVICE**EXHIBIT E**  
**STATEMENT OF THE BASIS OF OWNERSHIP**

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). The information is held confidential until the certificate is issued (7 U.S.C. 2426).

1. NAME OF APPLICANT(S)  Monsanto Technology LLC	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER  AGM52802	3. VARIETY NAME  AG5001
4. ADDRESS (Street and No., or R.F.D. No., City, State, and ZIP, and Country) 3302 S.E. Convenience Blvd. P.O. Box 3010 Ankeny, IA 50021	5. TELEPHONE (Include area code)  (515) 965-3022	6. FAX (Include area code)  (515) 965-3001
7. PVPO NUMBER  <b>200000080</b>		

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. If no, please explain. ☒ YES ☐ NO9. Is the applicant (individual or company) a U.S. National or a U.S. based company? If no, give name of country. ☒ YES ☐ NO10. Is the applicant the original owner? ☒ YES ☐ NO If no, please answer one of the following:

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?

☐ YES ☐ NO If no, give name of country

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?

☐ YES ☐ NO If no, give name of country

11. Additional explanation on ownership (Trace ownership from original breeder to current owner. Use the reverse for extra space if needed):

**PLEASE NOTE:**

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.

According to the Paperwork Reduction Act of 1995, an agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 0581-0055. The time required to complete this information collection is estimated to average 0.1 hour per response, including the time for reviewing the instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, sexual orientation, marital or familial status, political beliefs, parental status, or protected genetic information. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact the USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14<sup>th</sup> and Independence Avenue, SW, Washington, D.C. 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

*Monsanto Technology*  
~~ASGROW SEED COMPANY LLC~~ (BT: 9/24/2004)  
PVP APPLICATION - AG5001  
October 1999

200000080

## EXHIBIT E

### Statement of Basis of Applicant Ownership

AG5001 was originated and developed by Dr. Bruce Luzzi, an Asgrow soybean breeder. By agreement with Asgrow Seed Company LLC, all rights to any invention, discovery or development made by employees are assigned to the company. No rights of such invention, discovery or development are returned to the employee.